

What is claimed is

- 5 1. A method for enabling storage of data in a computer network comprising a plurality of computer nodes, wherein each computer node comprises at least one connection oriented link layer unit, the method comprising the steps of:
- 10 defining a looping path in the computer network, wherein the looping path comprises a plurality of computer nodes and connections between the computer nodes; and
- configuring a connection unit at each node along the
- 15 looping path, the connection unit being supported by the connection oriented link layer unit,
- such that the connection oriented link layer unit at each computer node is able to send incoming data which is to
- 20 be stored in the computer network to a next computer node along the looping path based on the connection unit, thereby providing the looping path for data to be circulated therein, and thereby enabling the storage of data in the computer network.
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2. The method for enabling the storage of data in a computer network according to claim 1, wherein the connection oriented link layer unit is implemented according to a generalized Multi-protocol Label Switching specification.

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3. The method for enabling the storage of data in a computer network according to claim 1, wherein a signaling framework is supported by the connection oriented link layer unit at each computer node and is implemented by a signaling
5 protocol running on the nodes.

4. The method for enabling the storage of data in a computer network according to claim 3, wherein the connection unit at each computer node of the computer network is
10 configured by a signaling message generated by the signaling protocol running on the computer nodes of the computer network.

5. The method for enabling the storage of data in a
15 computer network according to claim 1, further comprising the step of setting an attribute of the connection unit at each computer node of the looping path, wherein the attribute of the connection unit is used to identify the created path as a looping path for storing data.

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6. The method for enabling the storage of data in a computer network according to claim 5, wherein the attribute of the connection unit at each computer node of the looping path is set by a signaling message generated by a signaling
25 protocol running on the computer nodes of the computer network.

7. The method for enabling the storage of data in a computer network according to claim 6, further comprising
30 steps of

identifying the looping path in the computer network by determining whether an attribute of the signaling message is set; and

5 preventing the identified looping path from being aborted by the signaling protocol running on the computer nodes of the computer network when the attribute of the signaling message is set to the predefined value.

10 8. The method for enabling the storage of data in a computer network according to claim 7, wherein a further attribute of the signaling message having a value which is being incremented at each computer node along the looping path is set to a predefined value at at least a predefined
15 computer node of the looping path.

9. The method for enabling the storage of data in a computer network according to claim 7, wherein a further attribute of the signaling message having a node identifier
20 of each computer node being added to it at the respective computer node of the looping path is set to a predefined value at at least a predefined node of the looping path.

10. A method for storing data in a computer network
25 comprising a plurality of nodes, wherein each node comprises at least one connection oriented link layer unit, the method comprising the steps of

identifying a looping path in the computer network
30 comprising a plurality of computer nodes defined by the connection oriented link layer unit of a computer node; and

injecting data into the identified looping path at the computer node, in which looping path the injected data is to be circulated in, thereby storing the data in the computer
5 network.

11. The method for storing data in a computer network according to claim 10, wherein the connection oriented link layer unit is implemented according to a generalized Multi-
10 protocol Label Switching specification.

12. The method for storing data in a computer network according to claim 10, further comprising the steps of
15 affixing a header to each data packet of the data to be injected into the identified looping path at the node, wherein the header is associated with the identified looping path;
determining a forwarding path information of the header
20 affixed to the data packet by the connection oriented link layer unit at the computer node; and

affixing further a connection oriented link layer header to the data packet affixed with the header by the connection
25 oriented link layer unit at the computer node, wherein the connection oriented link layer header comprises an outgoing label which maps the data packet into the identified looping path, thereby storing the data in the computer network.

30 13. The method for storing data in a computer network according to claim 12, wherein a time to live field of the

connection oriented link layer header having a value which is being decremented at each computer node is set to a predefined value by the unit at at least one computer node along the identified looping path.

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14. The method for storing data in a computer network according to claim 10, wherein data stored in the looping path of the computer network is removed by

10 setting an administrative bit in a signaling message generated by a signaling protocol running on the computer nodes of the computer network to a predefined value; and

 sending the signaling message to a computer node along
15 the looping path, thereby setting an administrative attribute of a connection unit at the computer node and causing the computer node to remove the data stored in the looping path of the computer network.

20 15. The method for storing data in a computer network according to claim 10, wherein data stored in the looping path of the computer network is read by

 sending an experimental message generated by a signaling
25 protocol running on the computer nodes of the computer network to a computer node along the looping path, thereby setting a duplicate attribute of a connection unit at the computer node and causing the computer node to duplicate the data stored in the looping path of the computer network

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16. A system for enabling storage of data in a computer network comprising a plurality of computer nodes, wherein each computer node comprises at least one connection oriented link layer unit, the system comprising the steps of:

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a definition unit for defining a looping path in the computer network, wherein the looping p comprises a plurality of computer nodes and connections between the computer nodes; and

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a configuration unit for configuring a connection unit at each node along the looping path, the connection unit being supported by the connection oriented link layer unit;

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such that the connection oriented link layer unit at each computer node is able to send incoming data which is to be stored in the computer network to a next computer node along the looping path based on the connection unit, thereby providing the looping path for data to be circulated therein, and thereby enabling the storage of data in the computer network.

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17. The system for enabling storage of data in a computer network according to claim 16, wherein the connections between computer nodes are optical fibers.

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18. A system for storing of data in a computer network comprising a plurality of computer nodes, wherein each computer node comprises at least one connection oriented link layer unit, the system comprises

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an identification unit for identifying a looping path in the computer network comprising a plurality of computer nodes by the connection oriented link layer unit of a computer node; and

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an injection unit for injecting data into the identified looping path at the computer node, in which looping path the injected data is to be circulated in, thereby storing the data in the computer network.

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19. A system for storing of data in a computer network according to claim 18, each computer node further comprises a removal unit for removing the injected data in the looping path when an administrative attribute of a connection unit is set, thereby causing the computer node to remove the data stored in the looping path of the computer network.

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20. A system for storing of data in a computer network according to claim 18, each computer node further comprises a retrieval unit for duplicating the injected data in the looping path when a duplicate attribute of a connection unit is set, thereby causing the computer node to retrieve the data stored in the looping path of the computer network.

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